S/M No. : G37DP0S001

DAEWOO

Service Manual

Microwave Oven

Model : KOG-37DP0S

KOG-37FP0S

DAEWOO ELECTRONICS CO., LTD.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

(a) Do not operate or allow the oven to be operated with the door open.

(b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other micro-wave source, and make repairs as necessary: (1) Interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.

(c) Before turning on microwave power for any service test or inspection within the microwave generating com-partments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.

(d) Any defective or misadjusted components in the interlock, monitor, door seal and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(e) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

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SAFETY AND PRECAUTIONS

1.FOR SAFE OPERATION

Damage that allows the microwave energy (that cooks or heats the food) to escape will result in poor cooking and may cause serious bodily injury to the operator.
IF ANY OF THE FOLLOWING CONDITIONS EXIST, OPERATOR MUST NOT USE THE APPLIANCE.
(Only a trained service personnel should make repairs.)

1) A broken door hinge.
2) A broken door viewing screen.
3) A broken front panel, oven cavity.
4) A loosened door lock.
5) A broken door lock.

The door gasket plate and oven cavity surface should be kept clean.
No grease, soil or spatter should be allowed to build up on these surfaces or inside the oven.
DO NOT ATTEMPT TO OPERATE THIS APPLIANCE WITH THE DOOR OPEN. The microwave oven has concealed switches to make sure the power is turned off when the door is opened. Do not attempt to defeat them.
DO NOT ATTEMPT TO SERVICE THIS APPLIANCE UNTIL YOU HAVE READ THIS SERVICE MANUAL.

2.FOR SAFE SERVICE PROCEDURES.

1) If the oven is operative prior to servicing, a microwave emission check should be performed prior to servicing the oven.
2) If any certified oven unit is found to servicing, a microwave emission check should be performed prior to servicing the oven.
   (a) inform the manufacturer, importer or assembler,
   (b) repair the unit at no cost to the owner,
   (c) attempt to ascertain the cause of the excessive leakage,
   (d) tell the owner of the unit not to use the unit until the oven has been brought into compliance.
3) If the oven operates with the door open, the service person should tell the user not to operate the oven and contact the manufacturer immediately.

important

The wires in this mains lead coloured in accordance with the following code.

Green-and-yellow	: Earth
Blue	: Neutral
Brown	: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured green-and-yellow must be connected the the terminal in the plug which is marked with the letter ‘E’ or by earth symbol or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter ‘N’ or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter ‘L’ or coloured red.

NOTE : This oven is designed for counter-top use only.

SPECIFICATIONS

MODEL		KOG-37DP0S
POWER SUPPLY		230V-50Hz, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1200W
	GRILL	1050W
	COMBINATION	2200W
MICROWAVE ENERGY OUTPUT		800W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		465x279x342mm (18.3x11.0x13.5 in.)
CAVITY DIMENSIONS (W X H X D)		290x220x306mm (11.4x8.7x12.0 in.)
NET WEIGHT		APPROX. 14Kg (30.9 lbs.)
TIMER		59 min. 90 sec.
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		4 LEVELS
CAVITY VOLUME		0.7 Cu.Ft.

** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

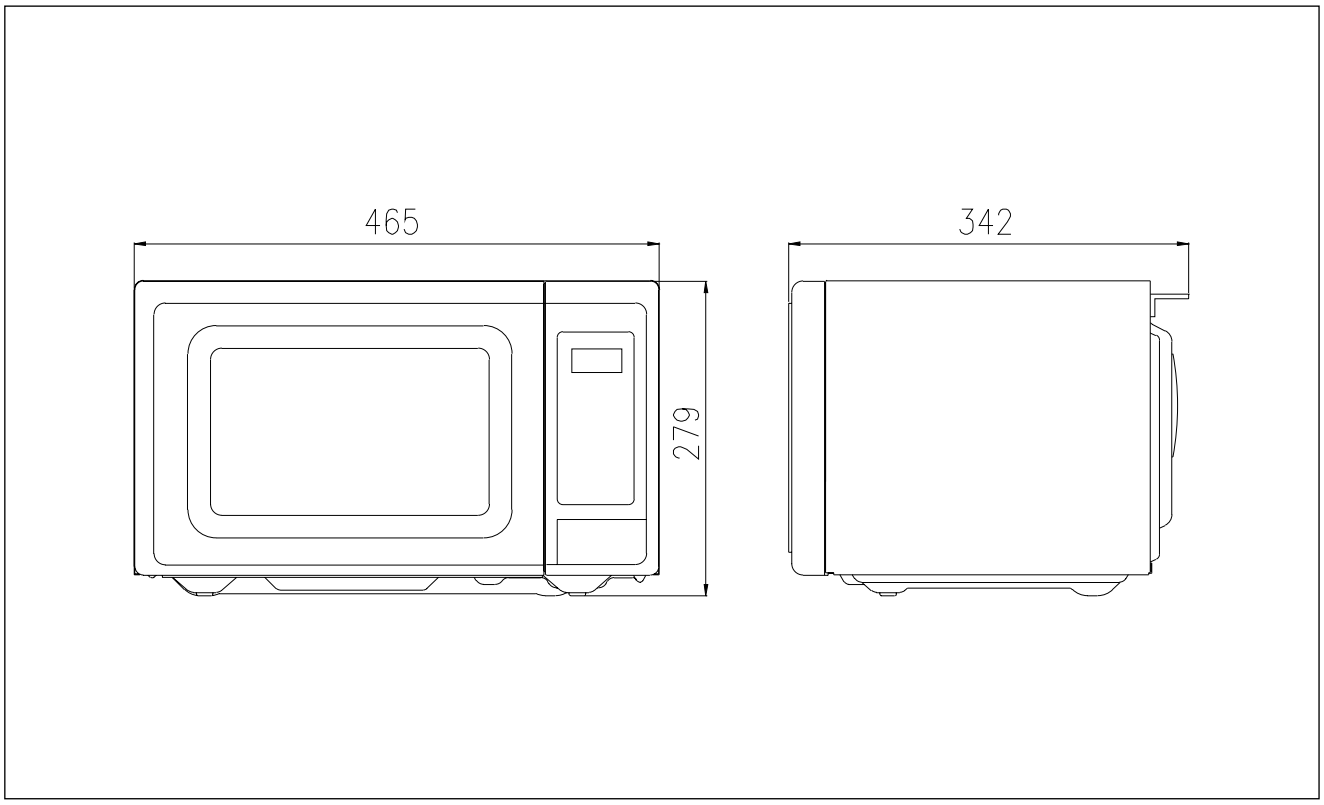
MODEL		KOG-37FP0S
POWER SUPPLY		230V-50Hz, SINGLE PHASE WITH EARTHING
POWER CONSUMPTION	MICROWAVE	1200W
	GRILL	1050W
	COMBINATION	2200W
MICROWAVE ENERGY OUTPUT		800W
MICROWAVE FREQUENCY		2450MHz
OUTSIDE DIMENSIONS (W X H X D)		465x279x346mm (18.3x11.0x13.6 in.)
CAVITY DIMENSIONS (W X H X D)		290x220x306mm (11.4x8.7x12.0 in.)
NET WEIGHT		APPROX. 14Kg (30.9 lbs.)
TIMER		59 min. 90 sec.
FUNCTION SELECTIONS		MICROWAVE
POWER SELECTIONS		4 LEVELS
CAVITY VOLUME		0.7 Cu.Ft.

** SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.*

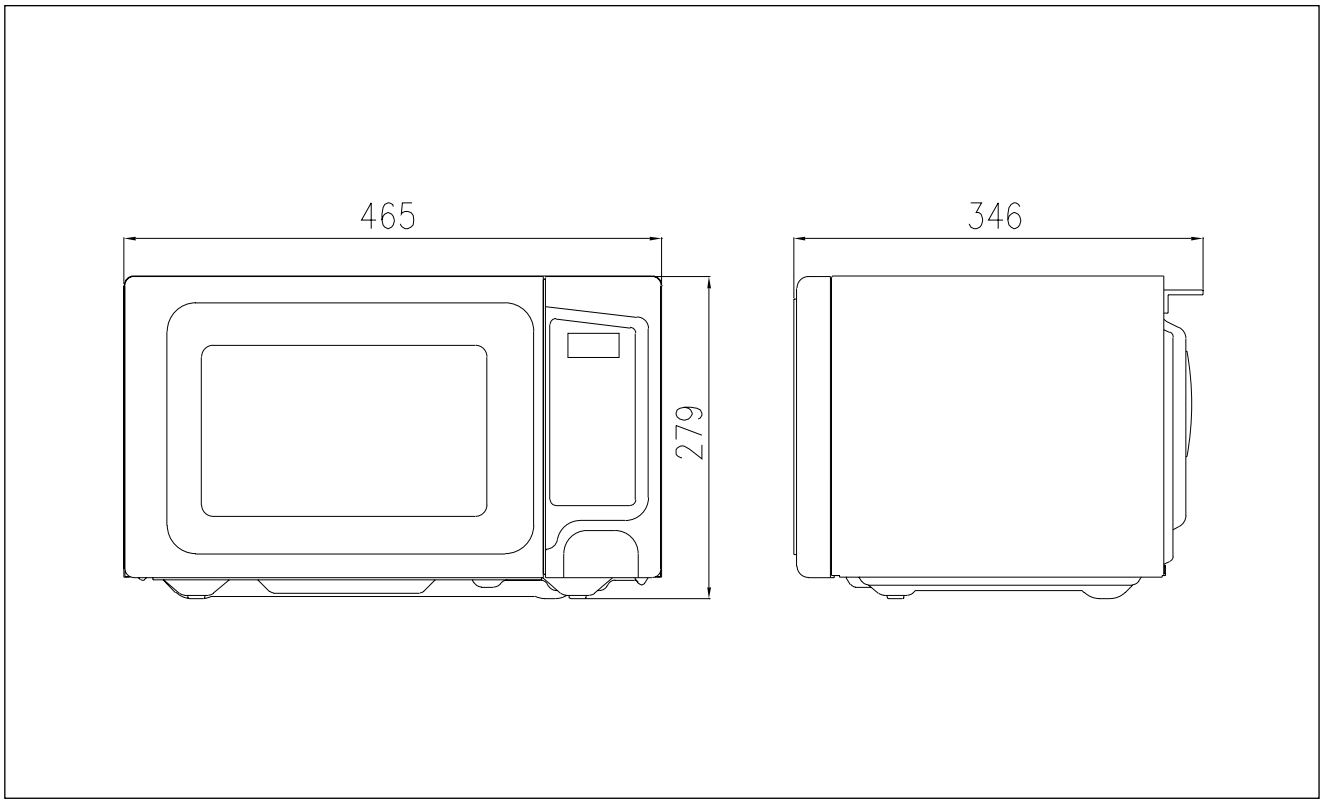
EXTERNAL VIEWS

1. OUTER DIMENSION

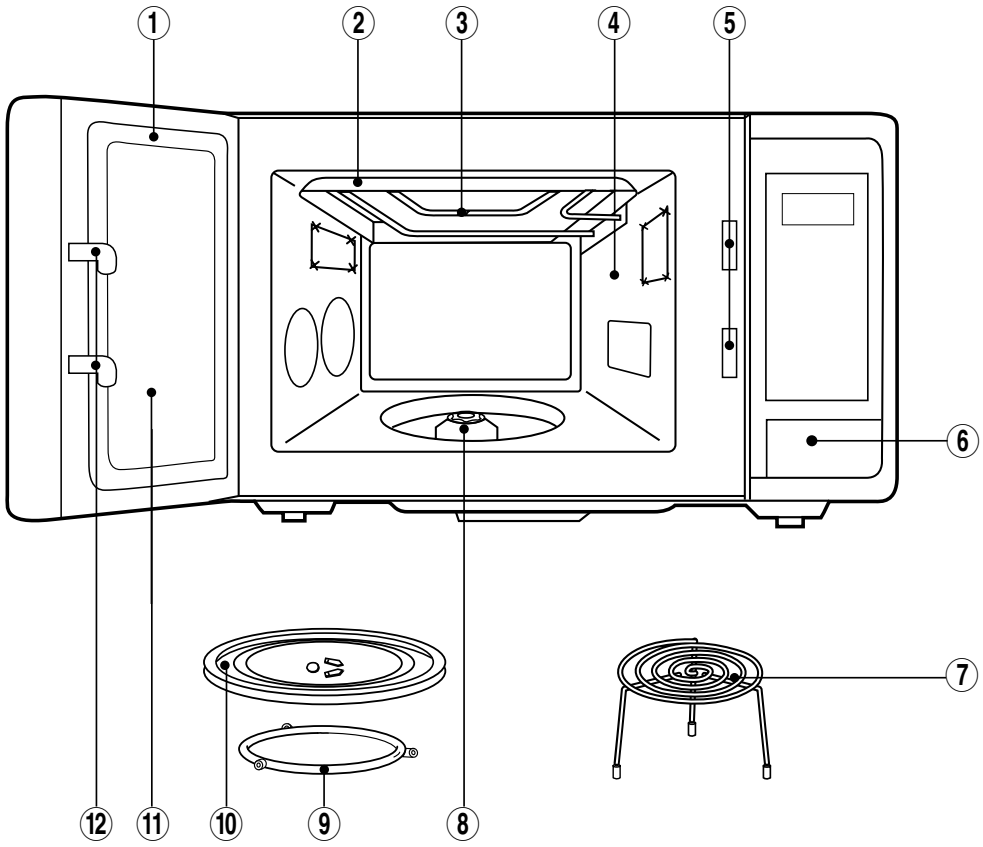
(1) KOG-37DP0S



(2) KOG-37FP0S



2. FEATURE DIAGRAM



1. Door seal - Door seal maintains the microwave energy within the oven cavity and prevents microwave leakage.

2. Reflector (Insulator Heater)

3. Heating Element

4. Oven cavity

5. Safety interlock system

6. Door release button - By pushing this button the latch system cut off all circuits and stops the oven before the door is opened.

7. Metal Rack

8. Coupler - This fits over the shaft in the center of the ovens cavity floor. This is to remain in the oven for all cooking.

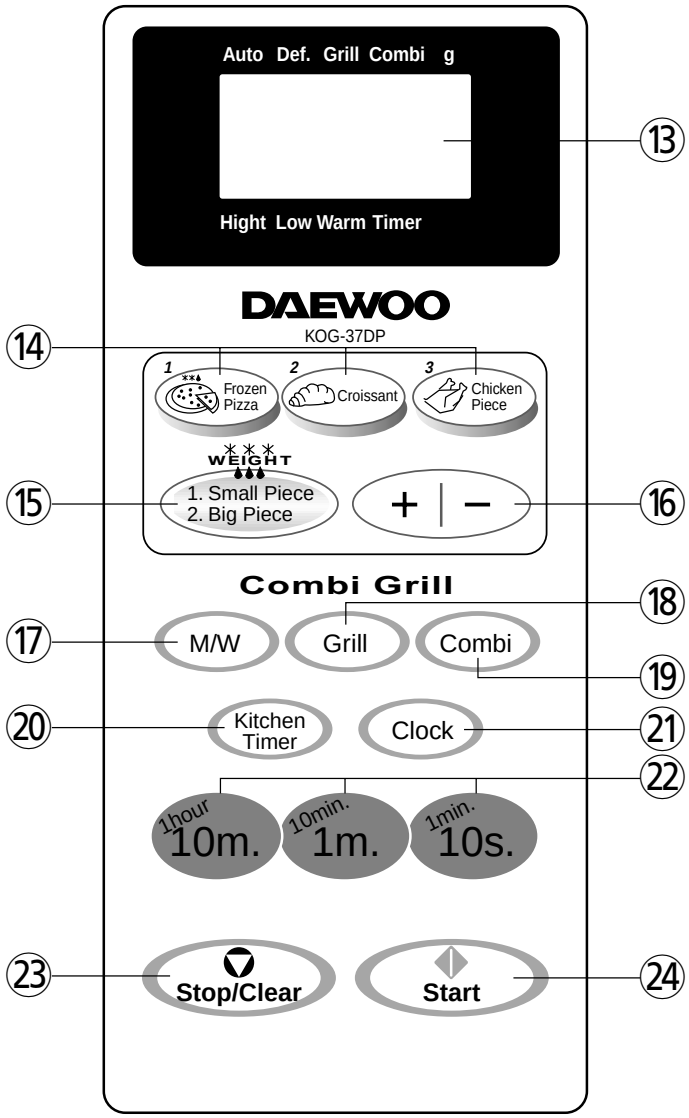
9. Roller guide - This must always be used for cooking together with the glass cooking tray.

10. Glass cooking tray - Made of special heat resistant gkass. Food in a proper receptacle is placed on this tray for cooking.

11. Door viewing screen - Allows viewing of food. The screen is designed so that light can pass through, but not the microwave.

12. Door hook - When the door is closed, it will automatically shut off. If the door is opened while the oven is operating, the magnetron will immediately stop operating.

3. CONTROL PANEL



13. Display - Cooking time, power level, indicators and present time are displayed.

14. Auto Weight - Used to cook or reheat three foods by setting the weight.

15. Auto weight Defrost - Used to defrost two foods by setting the weight.

16. Weight set pads - Used to set the weight.

17. M/W - Used to set microwave power level.

18. Grill - Used to cook grill.

19. Combination - Used to cook combination.

20. Kitchen Timer - Used to set a minute timer.

21. Clock - Used to set clock.

22. Time set pads - Used to set the cooking time and the present time.

23. Stop/Clear - Used to stop the oven operation or to erase all entries.

24. Start - Used to start the oven operation.

INSTALLATION

1. Steady, flat location

This microwave oven should be set on a steady, flat surface.
This microwave oven is designed for counter top use only.

2. Leave space behind and side

All air vents shouls be kept a clearance. If all vents are covered during operation, the oven may overheat and, eventually, cause failure.

3. Away from radio and TV sets

Poor television reception and radio interference may result if the oven is located close to a TV, radio, antenna or feeder and so on. Position the oven as far from them as possinle.

4. Away from heating appliances and water taps

Keep the oven away from hot air, steam or splash when choosing a place to position it, or the insulation might be adversely affected and breakdowns occur.

5. Power supply

- Check your local power source.
  This microwave oven requires a current of approximately 11 amperes, 220~240 Volts, 50Hz.
- Power supply cord is about 0.8 meters long.
- The voltage used must be the same as specified on this oven. Using a higher voltage may result in a fire or other accident causing oven damage. Using low voltage will cause slow cooking. We are not responsible for damage resulting from use of this oven with a voltage of ampere fuse other than those specified.
- This appliance is supplied with cable of special type, which, if damaged, must be repaired with cable of same type. Such a cable be purchased from DAEWOO and must be installed by a Qualified Person.

6. Examine the oven after unpacking for any damage such as:

A misaligned door, broken door or a dent in cavity.
If any of the above are visible, DO NOT INSTALL, and notify dealer immediately.

7. Do not operate the oven if it is colder than room temperature

(This may occur during delivery in cold weather.) Allow the oven to become room temperature before operating.

EARTHING INSTRUCTIONS

This appliance must be earthed. In the event od an electrical short circuit, earthing reduces the risk of the electric shock by providing an escape wire for the electric current. This appliance is equipped with a cord having a earthing wire with a earthing plug. The plug must be plugged into an outlet that is properly installed and earthed.

WARNING

Improper use of the earthing plug can result in a risk of electric shock. Consult a qualified electrician or serviceman if the earthing instruction are not completely understood, or if doubt exists as to whether the appliance is properly earthed, and either : If it is necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade earthing plug, and a 3-slot receptacle that will accept the plug on the appliance. The marked rating of the extension cord should be equal to or greater than the electrical rating of the appliance, or Do not use an extension cord.

OPERATIONS AND FUNCTIONS

1. Connect the mains lead to an electrical socket-outlet.
2. After placing the food in a suitable utensil, open the oven door and put it on the glass turntable, Glass turntable must always be in place during cooking.
3. Close the door securely.
4. When the oven door is opened, the light turns off.
5. The oven door can be opened at any time during operation by touching the door release button on the control panel.
   The oven will automatically shut off. To restart the oven, close the door and then touch START.
6. Each time a pad is touched, a BEEF will sound to acknowledge the touch.
7. The oven automatically cook on full power unless set to a lower power level.
8. The display will show “88 : 88” when the oven is plugged in.
9. Time clock returns to the present time when the cooking time ends.
10. When the STOP/CLEAR pad is touched during the oven operation, the oven stops cooking and all information retained. To erase all information (except the present time), touch the STOP/CLEAR pad once more. If the oven door is opened during the oven operation, all information is retained.
11. If the START pad is touched and the oven does not operate, check the area between the door and door is closed securely. The oven will not start cooking under the door is not completely closed or the program has not been set.
12. When using the GRILL or COMBI mode ;
    - Do not open the door so often, the temperature inside the oven decrease and the cooking may not complete in setting time.
    - Never touch the oven window and metal interior of the oven when taking food in and out, because of the temperature inside the oven and door is very high.
    - When using these modes, be careful as the tray will be hot to touch, use oven gloves or pot holders while handling tray.

Make sure the oven is properly installed and plugged into the electrical outlet.

Wattage output chart

The power level is set by pressing the Power pad. The chart shows the display, the power level and the wattage of power.

Touch Power pad.	Power level (Display)	Approximate Wattage of Power
Once	HI	800
Twice	LOW	470
3 times	WARM	140
4 times	DEF	Tapered

DISASSEMBLY AND ASSEMBLY

Cautions to be observed when trouble shooting.

Unlike many other appliances, the microwave oven is a high-voltage, high-current equipment. It is completely safety during normal operation. However, carelessness in servicing the oven can result in an electric shock or possible danger from a short circuit.
You are asked to observe the following precautions carefully.

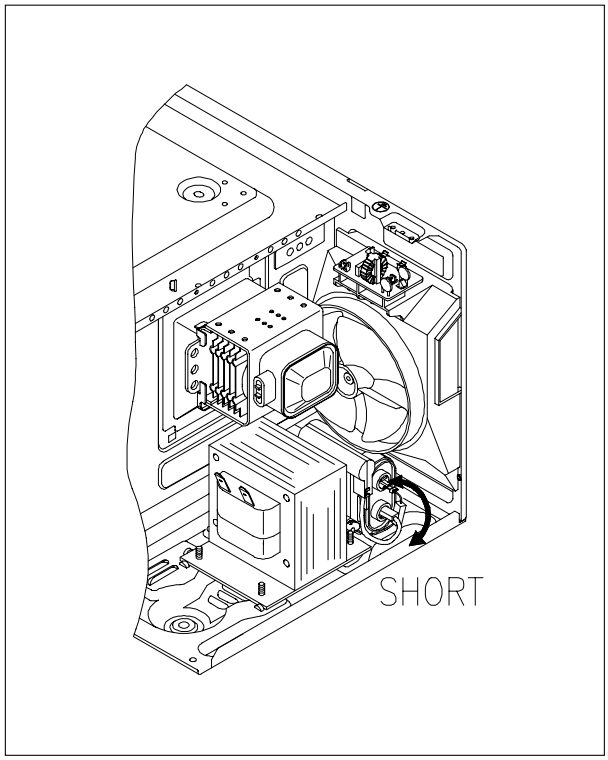
1. Always remove the power plug from the outlet before servicing.

2. Use an insulated screwdriver and ware rubber gloves when servicing the high voltage side.

3. Discharge the high voltage capacitor before touching any oven components or wiring.

   (1) Check the earthed.
   Do not operate on a two wire extension cord. The microwave oven is designed to be used with earthed. It is imperative, therefore, to makes sure it is earthed properly before begining repair work.

   (2) Warning about the electric charge in the high voltage capacitor.
   For about 30 seconds after the operation stopped, and electric charge remains in the high voltage capacitor. When replacing or checking parts, short between oven chassis and the negative high terminal of the high voltage capacitor, by using a properly insulted screw driver to discharge.



4. When the 15A fuse is blown out due to the operation of the monitor switch; replace primary, secondary interlock switch and monitor switch.
   Refer to next page for the necessary adjustment.

5. After repair or replacement of parts, make sure that the screws are properly tightened, and all electrical connections are tightened.

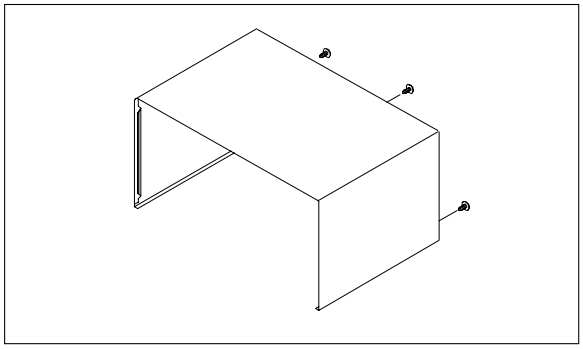
6. Do not operate without cabinet.

CAUTION : Service personnel should remove their watches whenever working close to or repairing the magnetron.

WARNING : When servicing the appliance, need a care of touching or replacing high potential parts because of electrical shock or exposing microwave. These parts are as follows-H.V. Transformer, Magnetron, H.V. Capacitor, H.V. Diode.

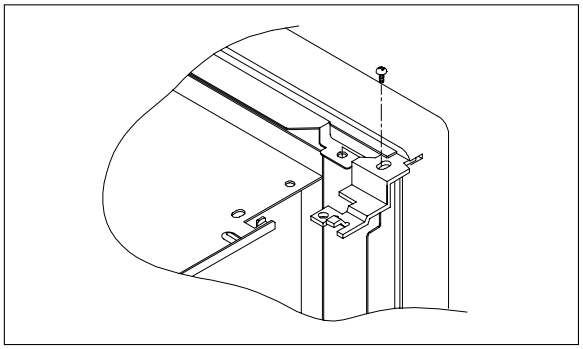
1. To remove cabinet.

1) Remove three screws on cabinet back.
2) Push the cabinet backward.



2. To remove door assembly.

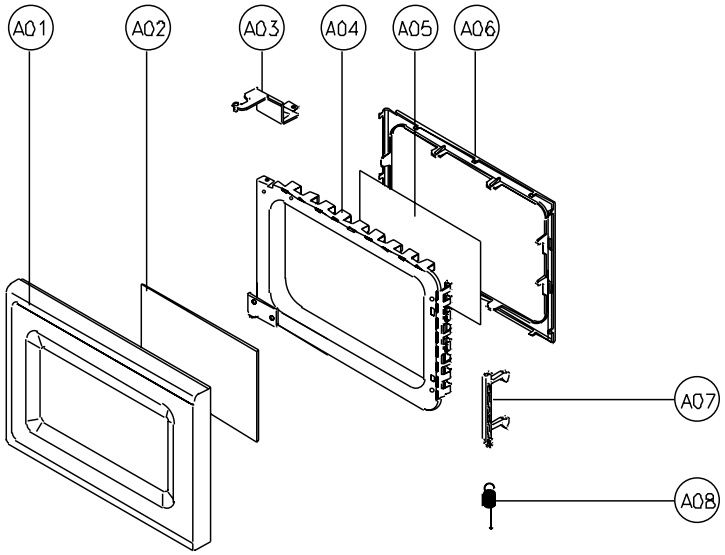
1) Remove a screw which secure the stopper hinge top.
2) Remove the door assembly from top plate of cavity
3) Reverse the above for reassembly.



NOTE

After replacing the door assembly, perform a check of correct alignment with the hinge and cavity front plate.

3. To remove door parts



DOOR ASSEMBLY
KOG-37DP0S: 3511714420
KOG-37FP0S: 3511714450

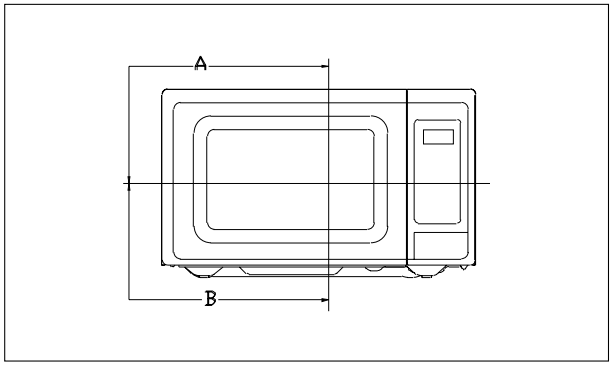
REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
A01	3512203880	FRAME DOOR	PP SI83C	1	KOG-37DP
	3512205200	FRAME DOOR	PP SI83C	1	KOG-37FP
A02	3517007300	BARRIER-SCREEN*0	PET T0.125	1	
A03	3515204100	STOPPER SINGE *T AS	KOR-63150S	1	
A04	3511706100	DOOR PAINTING AS	KOR-61150S	1	
A05	3517002800	BARRIER-SCREEN *I	T0.1	1	
A06	3512300200	GASKET DOOR	PP	1	
A07	3513100700	HOOK	POM	1	
A08	3515101300	SPRING HOOK	PW -1	1	

(1) Remove the gasket door from door painting assembly.
(2) Remove the door frame from door painting assembly.
(3) Remove the stopper hinge top from door painting assembly.
(4) Remove the spring and the hook.
(5) Remove the barrier screen outer from door frame.
(6) Reverse the above steps for reassembly.

4. Method to reduce the gap between the door seal and the oven front surface.

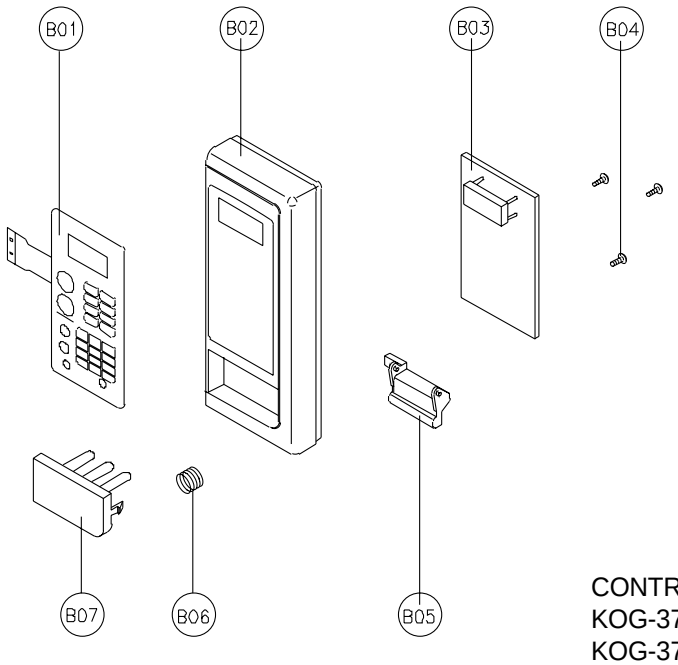
(1) To reduce gap located on part 'A'
Loosen a screws on stopper hinge top, and then push the door to contact the door seal to oven front surface.
Tighten two screws.

(2) To reduce gap located on part 'B'
Loosen two screws on stopper hinge under, and then push the door to contact the door seal to oven front surface.
Tighten two screws.



NOTE : A small gap may be acceptable if the microwave leakage does not exceed 4mW/cm^2.

5. To remove control panel parts.



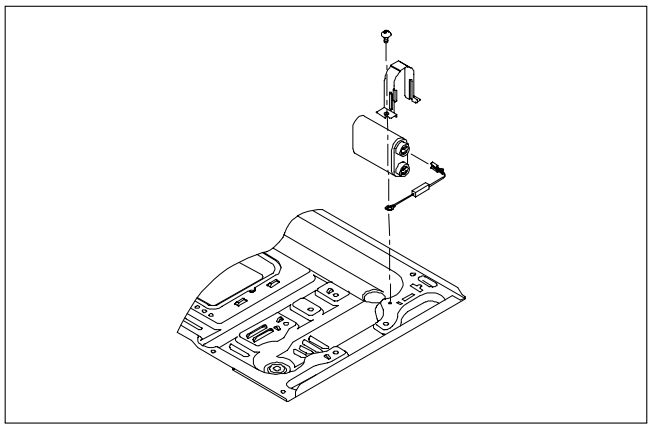
CONTROL-PANEL ASSEMBLY
KOG-37DP0S: 3516721640
KOG-37FP0S: 3516721650

REF NO.	PART CODE	PART NAME	DESCRIPTION	Q'TY	REMARK
B01	3518521670	SWITCH MEMBREANE	KOG-37DP0S	1	KOG-37DP
	3518520970	SWITCH MEMBRANE	KOG-37FP0S	1	KOG-37FP
B02	3516725300	CONTROL PANEL	ABS SG-0760D, SG-175	1	KOG-37DP
	3516725350	CONTROL PANEL	ABS SG-0760D, SG-175	1	KOG-37FP
B03	3514322470	PCB AS	KOG-57GP0S	1	
B04	7122401211	SCREW TAPPING	T2S TRS 4X12 MFZN	3	
B05	3513702710	LEVER DOOR OPEN	PP	1	
B06	441G430171	SPRING BUTTON	SWP DIA0.7	1	
B07	3516906940	BUTTON DOOR OPEN	ABS SG-0760D, SG-175	1	KOG-37DP
	3516906950	BUTTON DOOR OPEN	ABS SG-0760D, SG-175	1	KOG-37FP

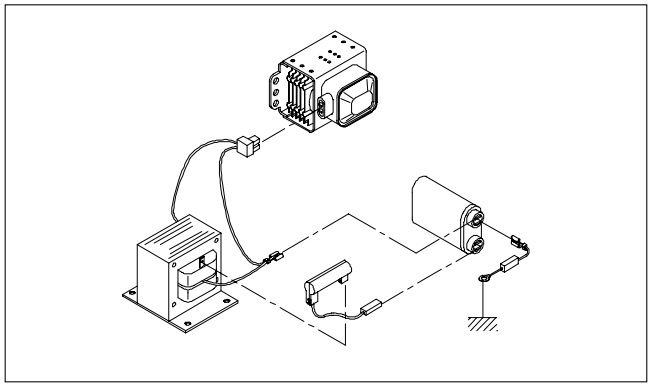
1) Remove the screw which secure the control panel, push up two snap fits and draw forward the control panel assembly.
2) Remove the door open lever from the control panel.
3) Remove four screws which secure the PCB assembly to control panel.
4) Disconnect membrane tail from the connector of the PCB assembly.
5) Detach membrane from the control panel.
6) Remove door open button and button spring from the control panel.
7) Reverse the above steps for reassembly.

6. To remove high voltage capacitor.

1) Remove a screw which secure the grounding ring terminal of the H.V. diode and the capacitor holder.
2) Remove the H.V. diode from the capacitor holder.
3) Reverse the above steps for reassembly.

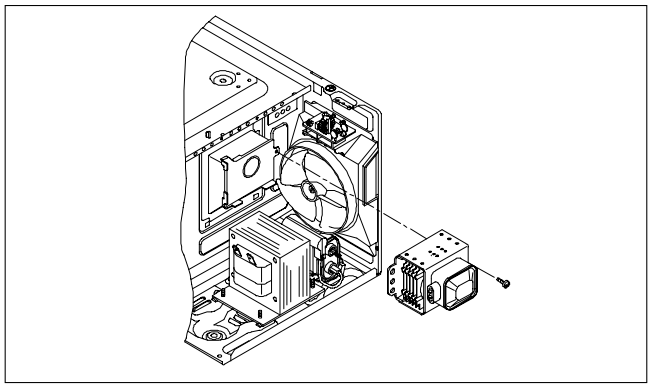


◆ High voltage circuit wiring

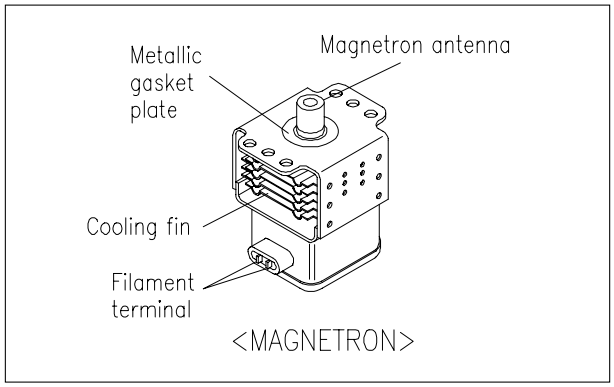


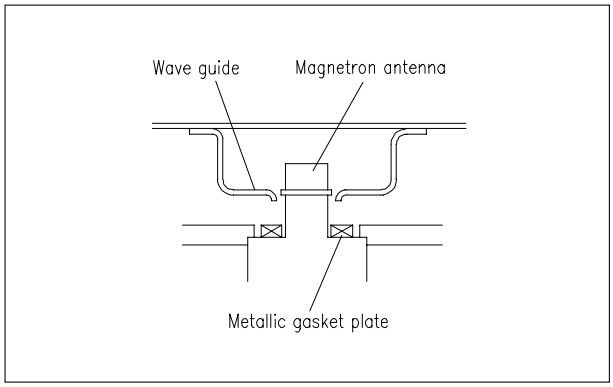
7. To remove magnetron.

1) Remove a screw which secure the magnetron.
2) Remove the magnetron.
3) Reverse the above steps for reassembly.



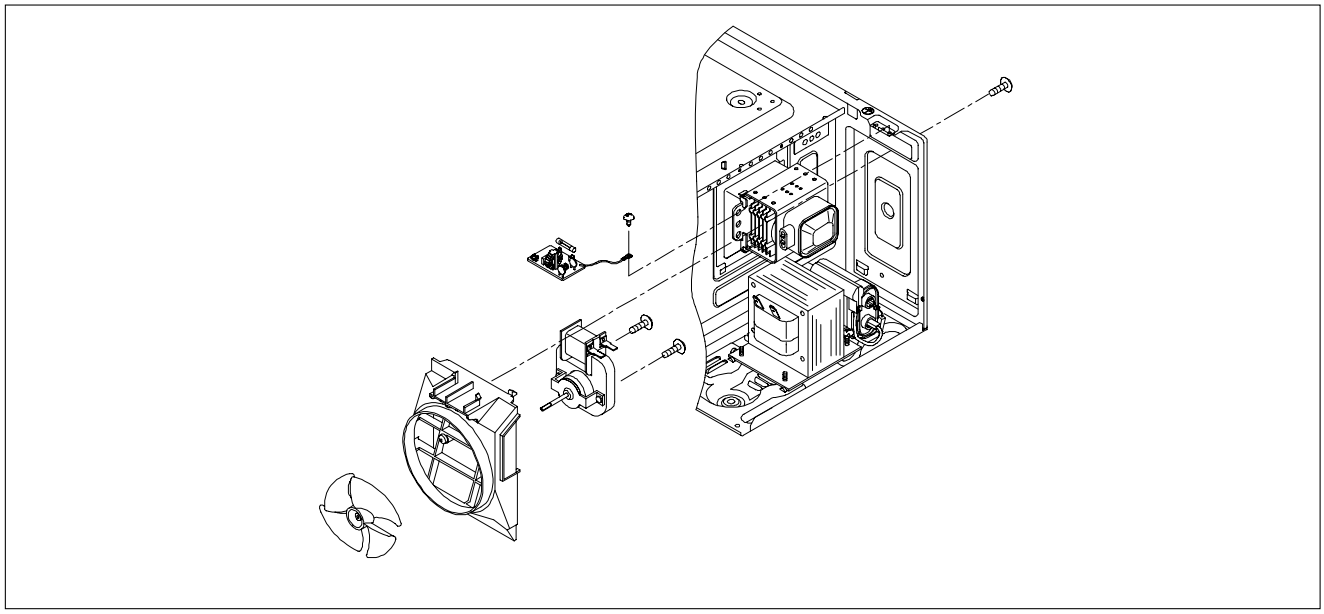
NOTE : Never install the magnetron without the metallic gasket plate which is packed with each magnetron to prevent microwave leakage. Whenever repair work is carried out on magnetron, check the microwave leakage. It shall not exceed 4mW/cm^2 for a fully assembled oven with door normally closed.





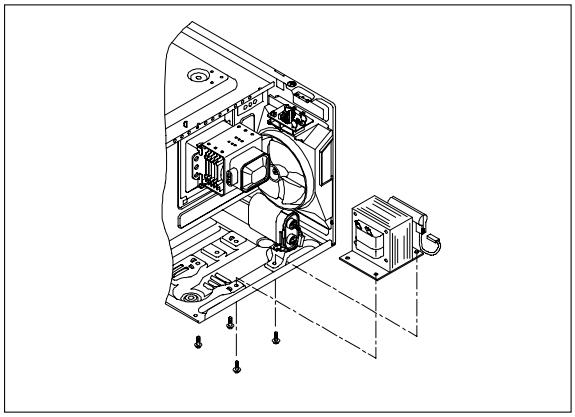
8. To remove fan motor assembly.

(1) Remove a screws for earthing
(2) Remove the noise filter from the wind guide.
(3) Remove a screw which secure the wind guide assembly.
(4) Draw forward the wind guide assembly.
(5) Pull the fan from the motor shaft.
(6) Remove two screws which secure the motor shaded pole.
(7) Remove the motor shaded pole.
(8) Reverse the above steps for reassembly.



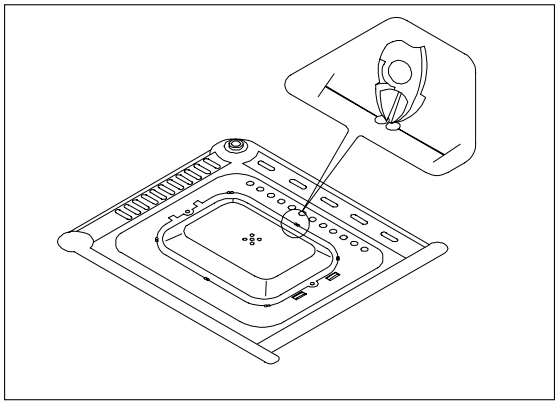
9. To remove H.V.transformer.

(1) Remove four screws holding the H.V.transformer.
(2) Remove the H.V.transformer.
(3) Reverse the above steps for reassembly.

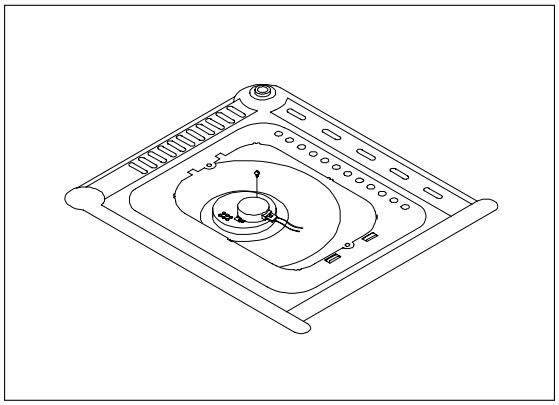


10. To remove tray motor.

(1) Remove the coupler in the cavity.
(2) Turn the set upside down.
(3) Cut the tray motor cover part from the base plate.
(4) Remove the tray motor cover.

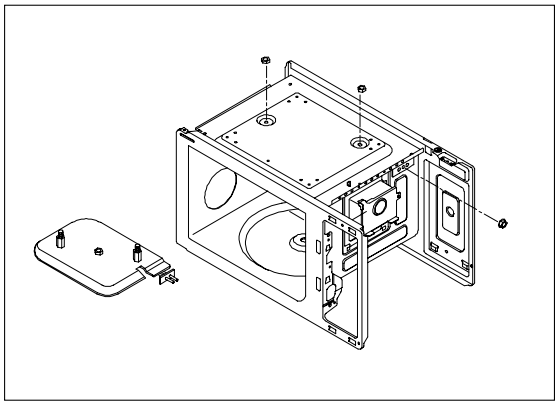


(5) Remove a screw which secure the tray motor.
(6) Remove the tray motor.
(7) Reverse the above steps for reassembly except for securing the tray motor cover with screw.

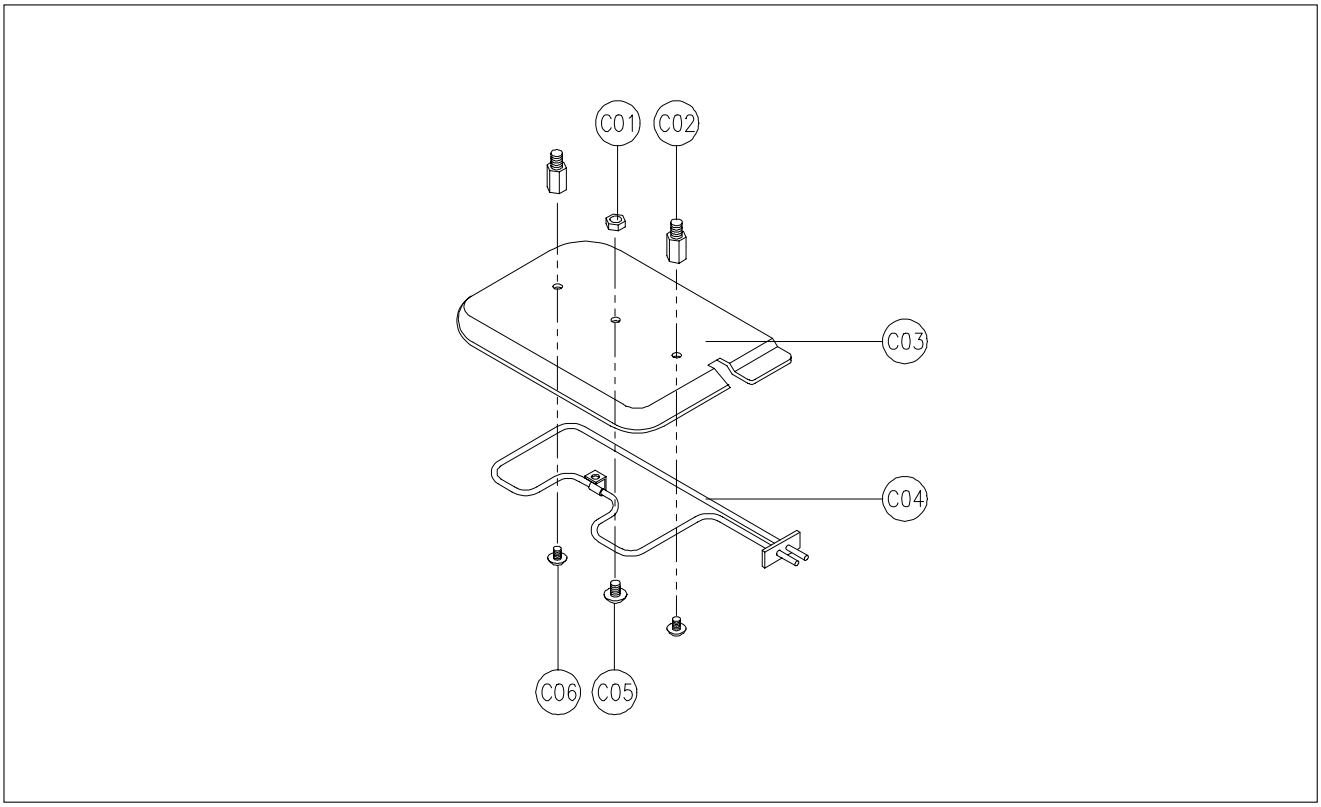


11. To remove heater assembly.

(1) Remove the three nuts.
(2) Remove the insulator heater assembly.
(3) Reverse the above steps for reassembly.



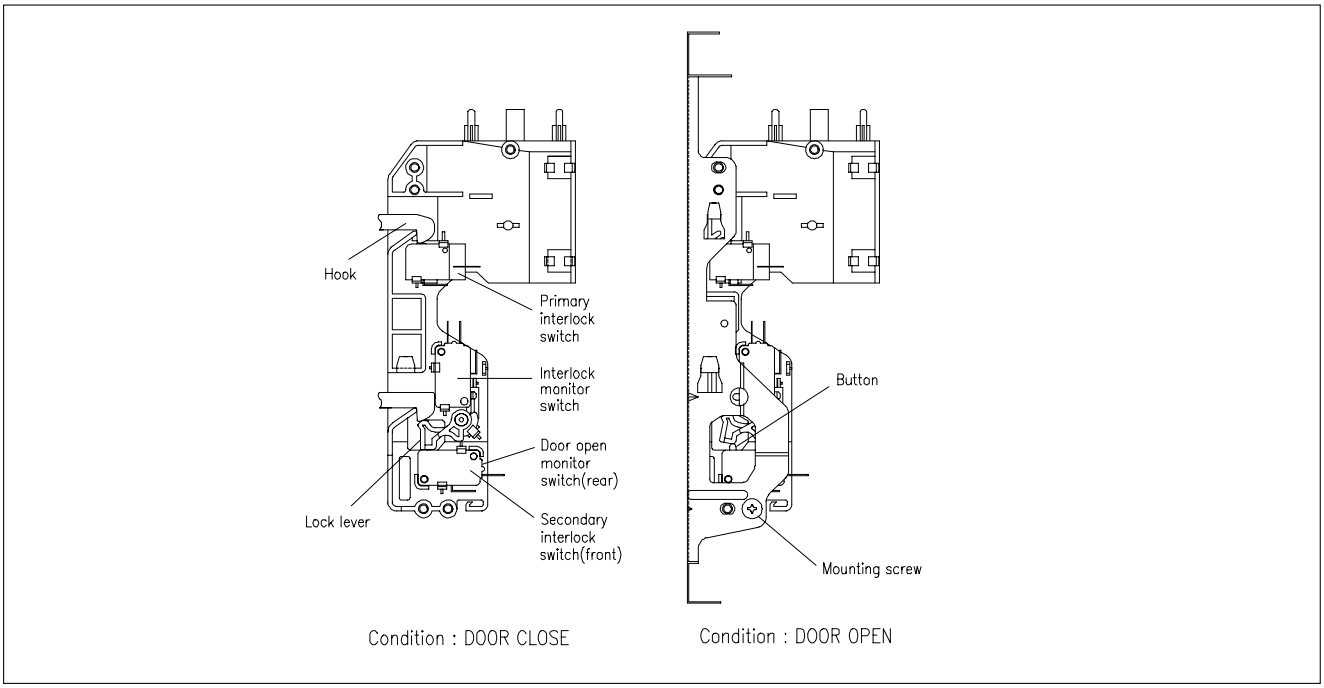
12. To remove heater parts.



REF.NO	PART CODE	PART NAME	DESCRIPTION	QTY	REMARK
C01	7392500008	NUT HEX	6N-2-5 SUS	1	
C02	3515000600	SPACER INSULATOR *I	C3771BD	2	
C03	3513301100	INSULATOR HEATER	SPP T0.8	1	
C04	3512803400	HEATER	230V 1000W 1R67994001	1	
C05	7002500613	SCREW MACHINE	TRS 5X6 MFCR	1	
C06	7002400413	SCREW MACHINE	TRS 4X4 MFCR	2	

INTERLOCK MECHANISM AND ADJUSTMENT

The door lock mechanism is a device which has been specially designed to completely eliminate microwave radiation when the door is opened during operation, and thus to perfectly prevent the danger resulting from the leakage of microwave.



(1) Primary interlock switch

When the door is closed, the hook locks the oven door. If the door is not is not closed properly, the oven will not operate. When the door is closed, the hook pushes the button of the microswitch. Then the button of the primary interlock switch bring it under ON condition.

(2) Secondary interlock switch and interlock monitor switch

When the door is closed, the hook pushes the lock lever downward. The lock lever presses the button of the interlock monitor switch to bring it under NO condition and presses the button of the secondary interlock switch to bring it under ON condition.

ADJUSTMENT

Interlock monitor switch

When the door is closeed, the interlock monitor switch should be changed(NO condition) before other switches are closed.

When the door is opened, the interlock monitor switch should be changed(NC condition) after other switches are opened.

(3) Adjustment steps

a) Loosen the one mounting screw.

b) Adjust interlock switch assembly position.

c) Make sure that lock lever moves smoothly after adjustment is completed.

d) Tighten completely one mounting screw.

NOTE

Microwave emission test should be performed after adjusting interlock mechanism. If the microwave emission exceed 4mW.cm^2, readjust interlock mechanism.

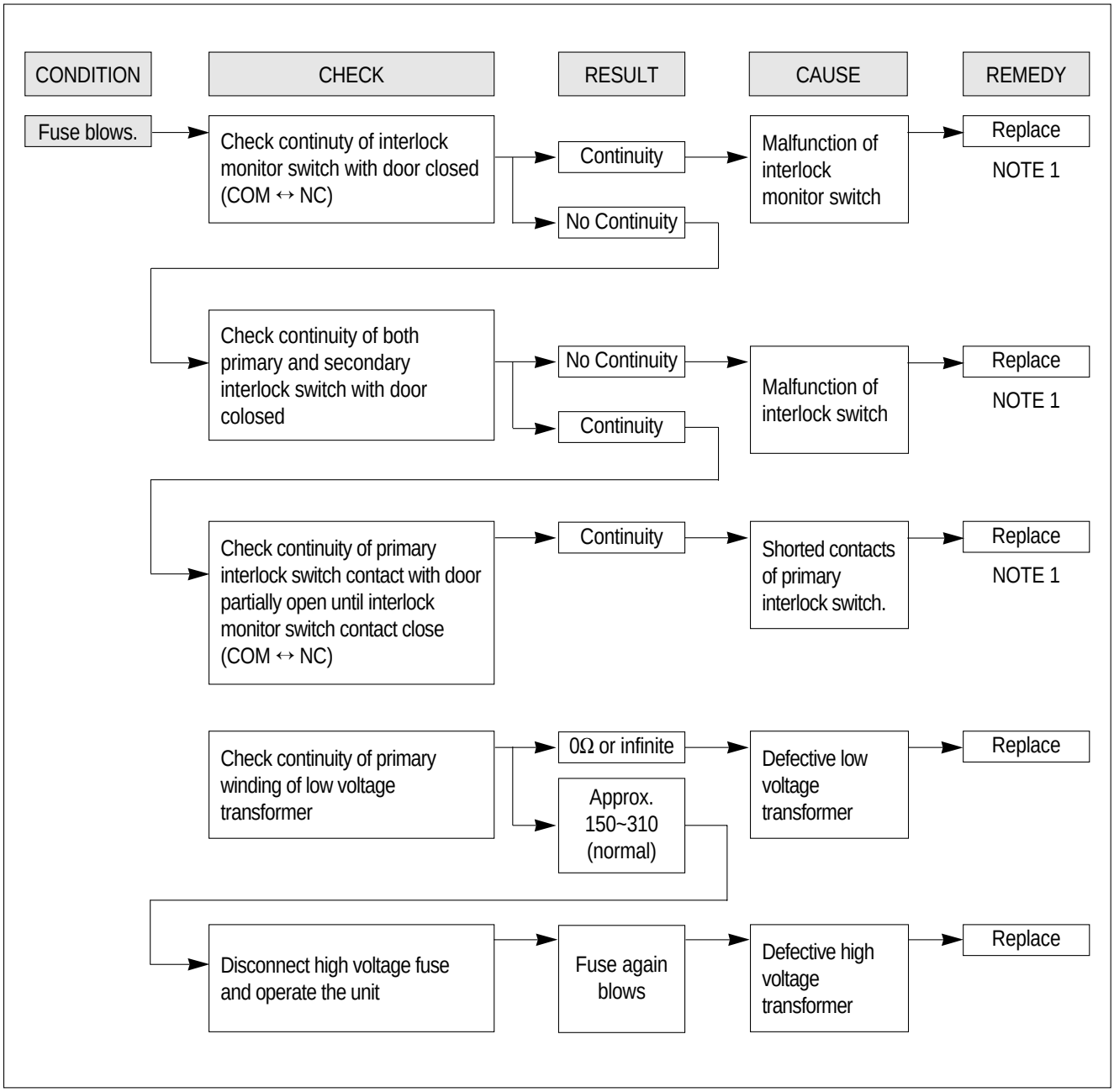
TROUBLE SHOOTING GUIDE

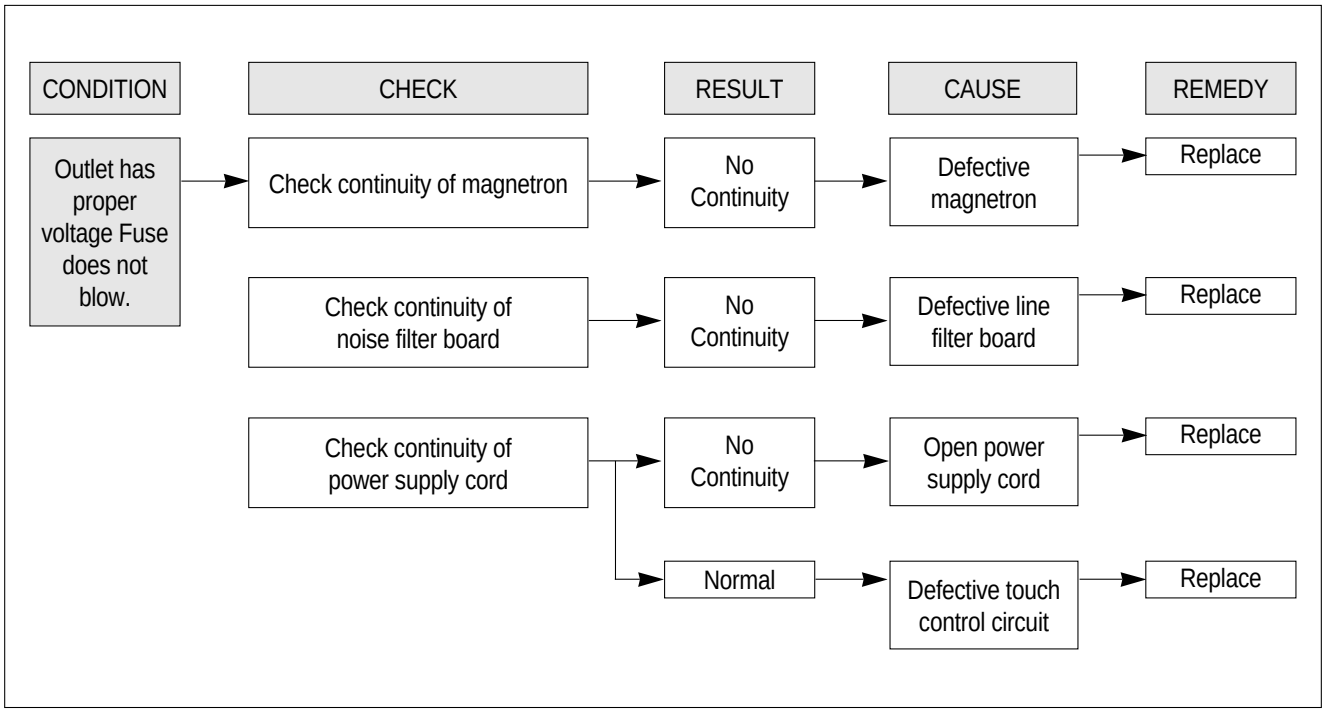
Following the procedure below to check if the oven is defective or not.

1) Check earthing before trouble checking.
2) Be careful of the high voltage circuit.
3) Discharge the high voltage capacitor.
4) When checking the continuity of the switches, fuse or high voltage transformer, disconnect one lead wire from these parts and check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.

NOTE
When electric parts are checked, be sure the power cord is not inserted the wall outlet.
Check wire hamess, wiring and connected of the terminals and power cord before check the parts listed below.

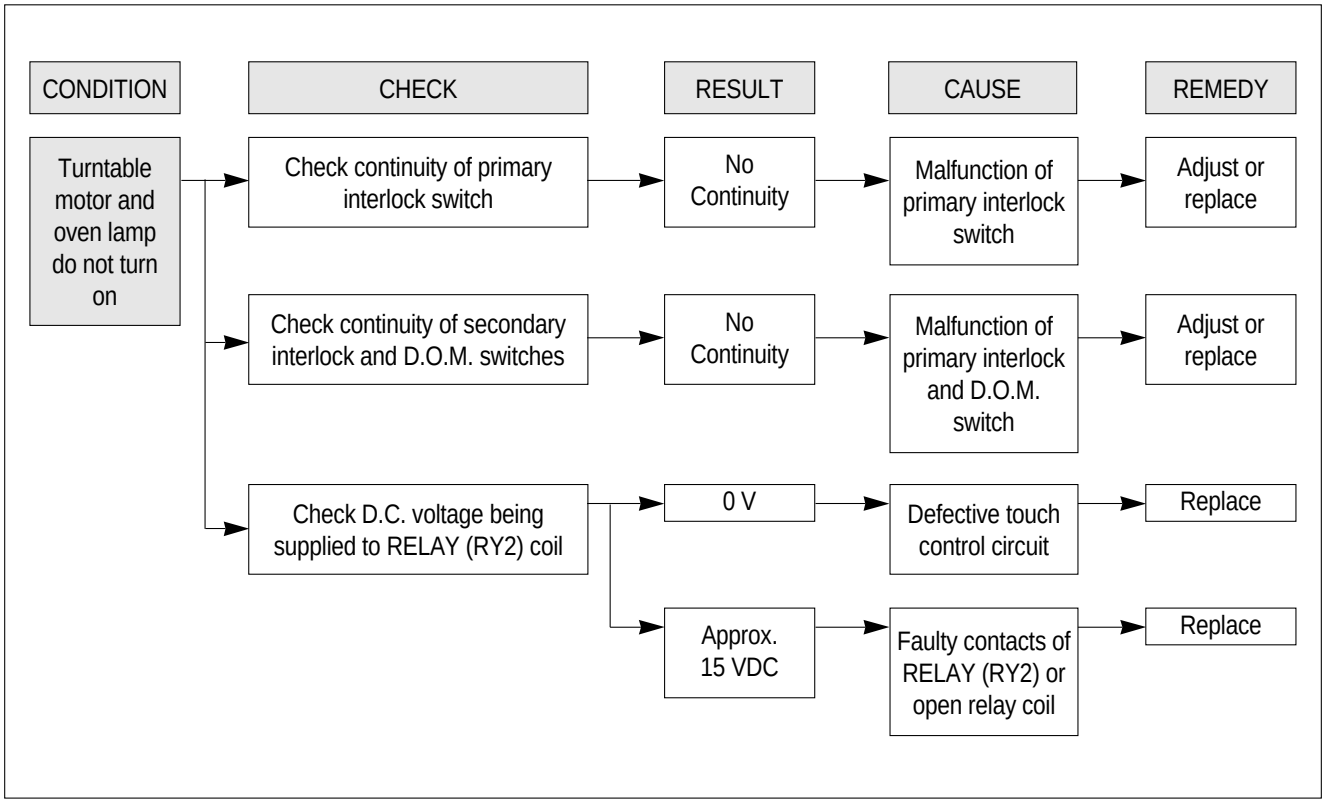
(TROUBLE 1) Oven does not operate at all : any inputs can not be accepted.



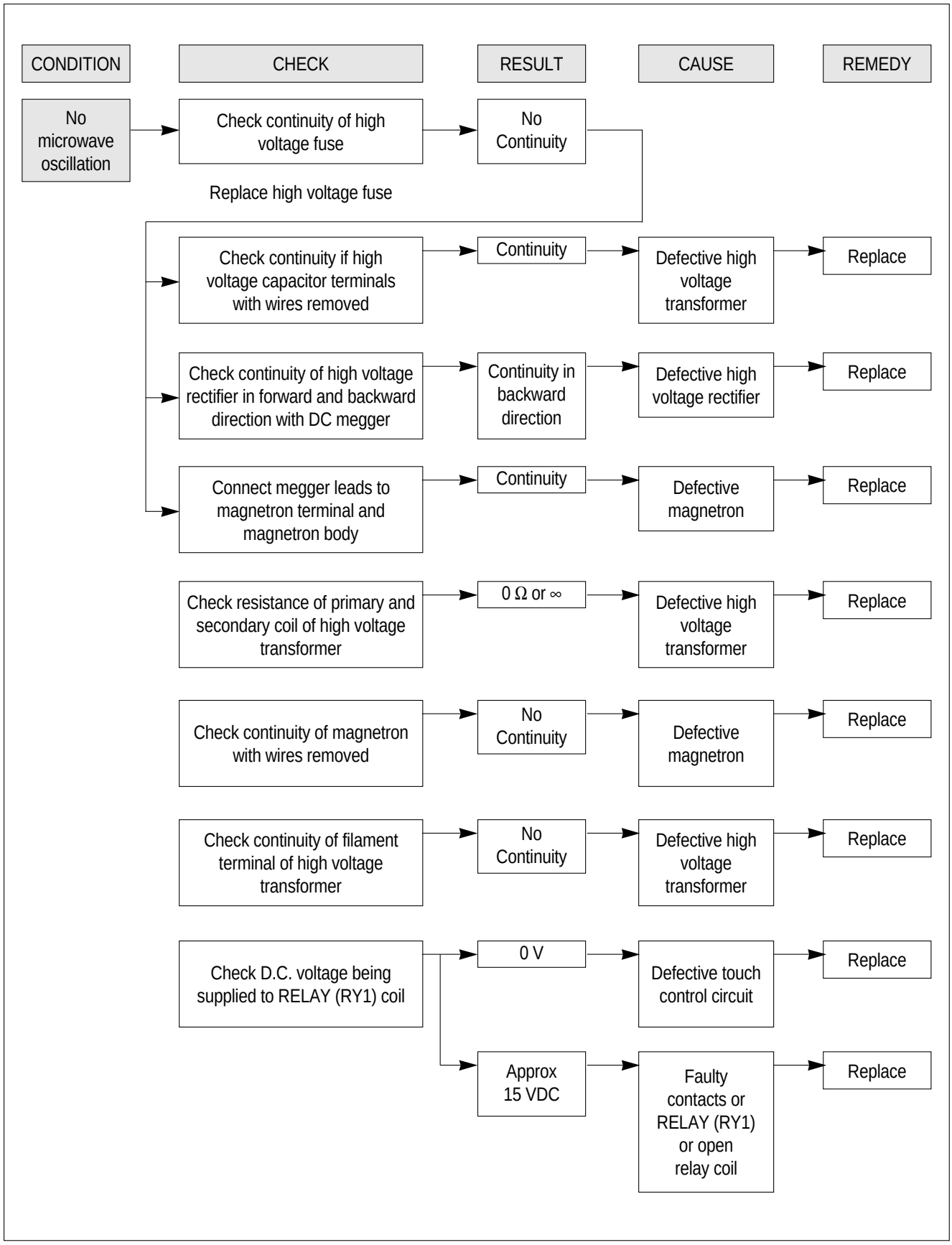


NOTE
All these switches must be replaced at the same time, please refer to "Interlock Mechanism And Adjustment".

(TROUBLE 2) Display shows all figures selected, but oven does not start cooking, even though desired program and time are set and start pad is tapped.

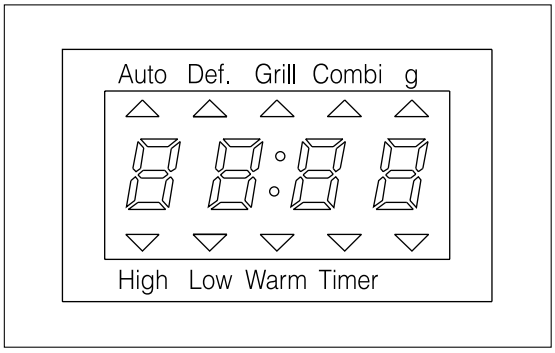


(TROUBLE 3) No microwave oscillation even though fan motor rotates.



(TROUBLE 4) The following visual conditions inditions indicate a probable defective touch control circuit or membrane switch assembly

1. Incomplete segments,
   1) Segments missing.
   2) Partical segments missing.
   3) Digit flickering other than normal display slight flickering.
   4) " 88:88" does not display when power is on.



2. A distinct change in the display are not on when they should be.

3. One or more digits in the display are not on when they should be.

4. Display indicates a number different from one touched.

5. Specific numbers (for example 2 or 3) will not display when the panel is touched.

6. Display does not count down or up with time cooking or clock operation.

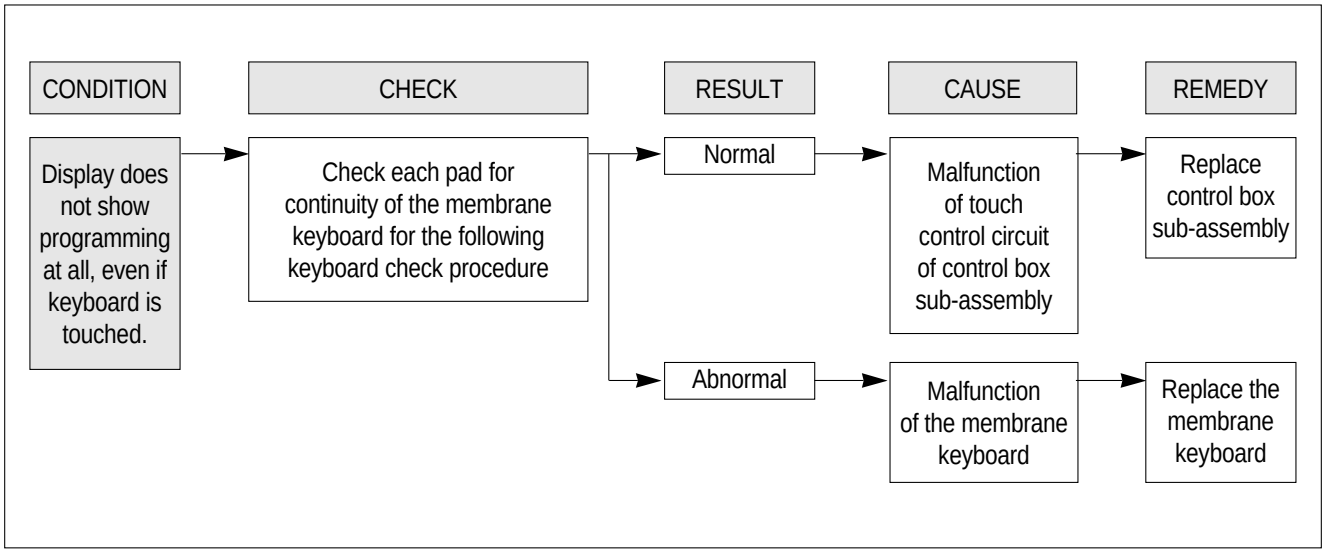
7. Oven is programmable and cooks normally but no display shows.

8. Display obviously jumps in time while counting down.

9. Display counts down noticeable too fast while cooking.

10. Display does not show the time of day when clear pad is touched.

11. Oven lamp and turntable motor do not stop although cooking is finished. Check if the RELAY 2 contacts close. If they are close, replace touch control circuit.


CONDITION
CHECK
RESULT
CAUSE
REMEDY
Display does not show programming at all, even if keyboard is touched.
Check each pad for continuity of the membrane keyboard for the following keyboard check procedure
Normal
Malfunction of touch control circuit of control box sub-assembly
Replace control box sub-assembly
Abnormal
Malfunction of the membrane keyboard
Replace the membrane keyboard

NOTE
Before following the particular steps listed above in the trouble shooting guide for the membrane keyboard's, failure, please check for the continuity of each wire-harness between the membrane keyboard and P.C.B. assembly.

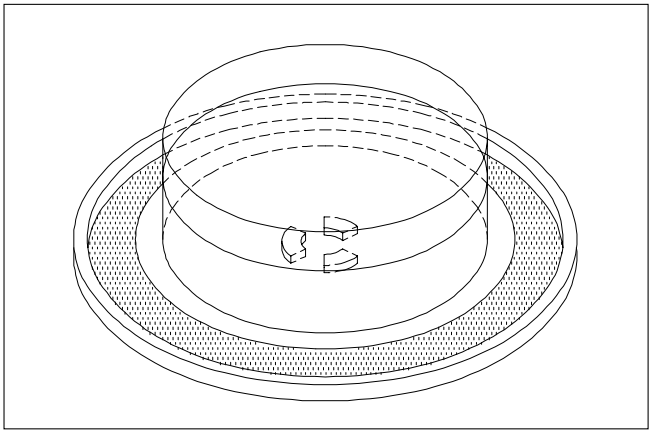
MEASUREMENT AND TEST

1. MEASUREMENT OF THE MICROWAVE POWER OUTPUT

Microwave output power can be checked by indirectly mmeasuring the temperature rise of a certain amount of water exposed to the microwave as directed below.

PROCEDURE

1. Microwave power output measurement is made with the microwave oven supplied at rated voltage and operated at its maximum microwave power setting with a load of 100 ± 5cc of potable water.
2. The water is contained in a cylindrical borosilicate glass vessel having a maximum material thickness of 3 mm and an outside diameter of approximately 190 mm.
3. The oven and the empty vessel are at ambient temperature prior to the start of the test. The initial temperature of the water is 10 ± 2°C (50 ± 3.6°F). If is measured immediately before the water is added to the vessel. After addition of the water to the vessel, the load is immediately placed on the center of the shelf, which is in the lowest normal position.
4. Microwave power is switched on.
5. Heating time should be exactly A seconds.
   (Refer to table as following)
   Heating time is measured while the microwave generator is operating at full power. The filament heat-up time for magnetron is not included.
6. The initial and final temperature of water is selected so that the maximum difference between the ambient and final water temperature is 5K.
7. The microwave power output P in watts is calculated from the following formula:



$$P = 4187 \times \Delta T/t$$

- Δ T is difference between initial and ending temperature.
- t is the heating time.

The power measured be B (Refer to SPECIFICATIONS) W ± 10.0 %.

CAUTION
1. Water load should be measured exactly to 1 liters.
2. Input power voltage should be exactly specified voltage (Refer to SPECIFICATIONS).
3. Ambient temperature should be 20 ± 2°C (68 ± 3.6°F)

⁎ Heating time for power output:

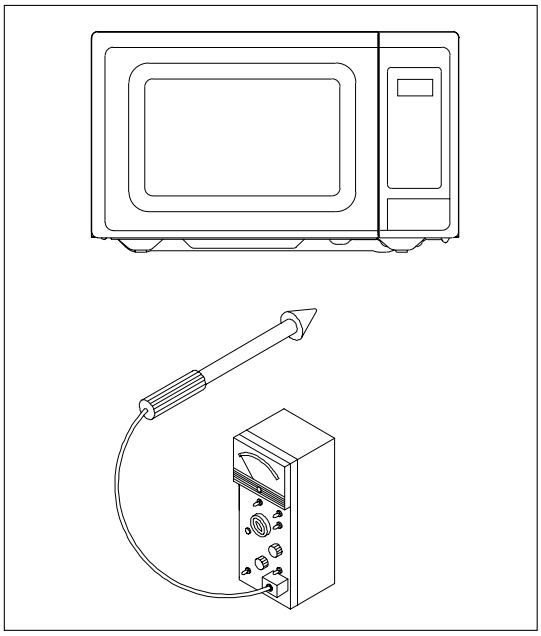
A (second)	70	64	60	56	52	49	47	44	42	40	38
B (W)	600	650	700	750	800	850	900	950	1000	1050	1100

2. MICROWAVE RADIATION TEST

CAUTION

1. Make sure to check the microwave leakage before and after repair of adjustment.
2. Always start measuring of an unknown field to assure safety for operating personnel from microwave energy.
3. Do not place your hands into any suspected microwave radiation field unless the safe density level is known.
4. Care should be taken not to place the eyes in direct line with the source of microwave energy.
5. Slowly approach the unit under test until the radiometer reads an appreciable microwave leakage from the unit under the test.

PROCEDURE



1. Prepare Microwave Energy Survey Meter, 600cc glass beaker, and glass thermometer 100°C (212°F).

2. Pour 275cc ± 15cc of tap water initially at 20 ± 5°C (68 ± 9°F) in the 600 cc glass beaker with an inside diameter of approx. 95 mm(3.5 in.).

3. Place it at the center of the tray and set it in a cavity.

4. Close the door and operate the oven.

5. Measure the leakage by using Microwave Energy Survey Meter with dual ranges, set to 2450MHz.
   1) Measured radiation leakage must not exceed the value prescribed below. Leakage for a fully assembled oven with door normally closed must be less than 4mW/cm^2.
   2) When measuring the leakage, always use the 5 cm (2 in.) space cone with probe. Hold the probe perpendicular to the cabinet and door. Place the space cone of the probe on the door, cabinet, door seem, door viewing screen, the exhaust air vents and the suction air vents.
   3) Measuring should be in a counter-clockwise direction at a rate of 1 in./sec. If the leakage of the cabinet door seem is unknown, move the probe more slowly.
   4) When measuring near a corner of the door, keep the probe perpendicular to the areas making sure the probe end at the base of the cone does not get closer than 2 in. from any metal. If it does not, erroneous reading may result.

3. COMPONENT TEST PROCEDURE

- High voltage is present at the high voltage terminal of the high voltage transformer during any cooking cycle.
- It is neither necessary nor advisable to attempt measurement of the high voltage.
- Before touching any oven components or wiring, always unplug the oven from its power source and discharge the capacitor.

1. High voltage transformer

1) Remove connections from the transformer terminals and check continuity.
2) Normal readings should be as follows :
   Secondary winding ... Approx. 110 Ω±10%
   Filament winding ... Approx. 0 Ω
   Primary winding ... Approx. 1 Ω

2. High voltage capacitor

1) Check continuity of capacitor with meter on the highest OHM scale.
2) A normal capacitor will show continuity for a short time, and then indicate 10MΩ once the capacitor charged.
3) A shorted capacitor will show continuous continuity.
4) An open capacitor will show constant 10MΩ.
5) Resistance between each terminal and chassis should be infinite.

3. High voltage diode

1) Isolate the diode from the circuit by disconnecting the leads.
2) With the ohmmeter set on the highest resistance scale measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-back resistance of the diode, otherwise an infinite resistance may be read in both directions. A normal diode's resistance will be infinite in one direction and several hundred k Ω in the other direction.

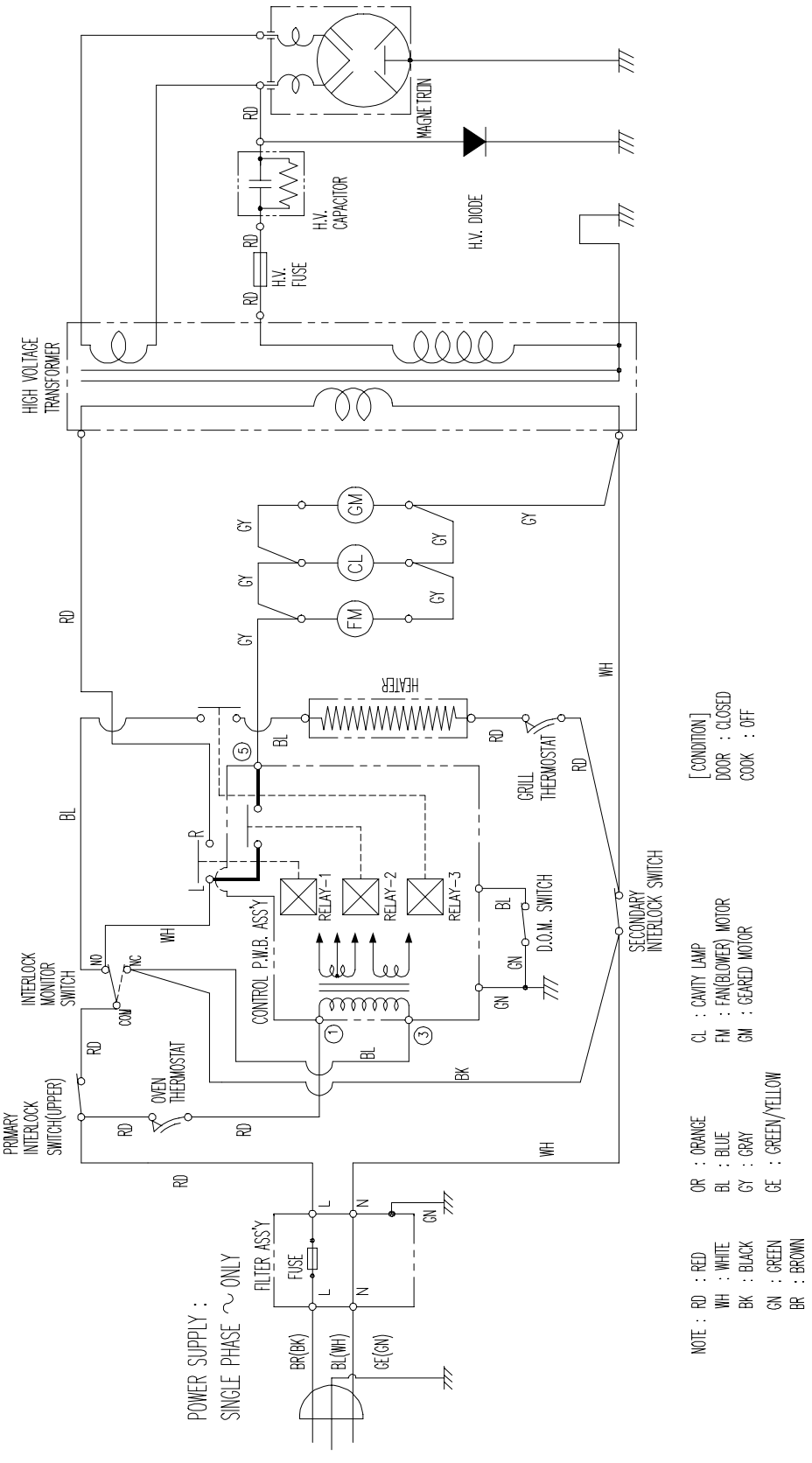
4. Magnetron

For complete magnetron diagnosis, refer to "Measurement of the Microwave Power Output." Continuity checks can only indicate and open filament or a shorted magnetron. To diagnose for an open filament or a shorted magnetron,
1) Isolate magnetron from the circuit by disconnecting the leads.
2) A continuity check across magnetron filament terminals should indicate 0.1 Ω or less.
3) A continuity check between each filament terminal and magnetron case should read open.

5. Fuse

If the fuse in the primary and monitor switch circuit is blown when the door is opened, check the primary and monitor switch before replacing the blown fuse. In case the fuse is blown by an improper switch operation, replace the defective switch and fuse at the same time. Replace just the fuse if the switches operate normally.

WIRING DIAGRAM



PRINTED CIRCUIT BOARD

1. CIRCUIT CHECK PROCEDURE

1. Low voltage transformer check

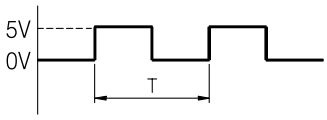
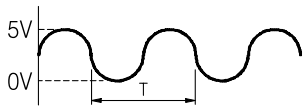
The low voltage transformer is located on the P.C.B.
Measuring condition: Input voltage: 230V / Frequency: 50Hz

Terminal Voltage	LOAD	NO LOAD
6- 4, 7	AC 12.6 V	AC 14.7 V

NOTE
1. Refer to Ciruit Diagram (point 4).
2. Secondary side voltage of the low voltage transformer changes in proportion to fluctuation of power source voltage.
3. The allowable tolerance of the secondary voltage is within ± 5% of nominal voltage.

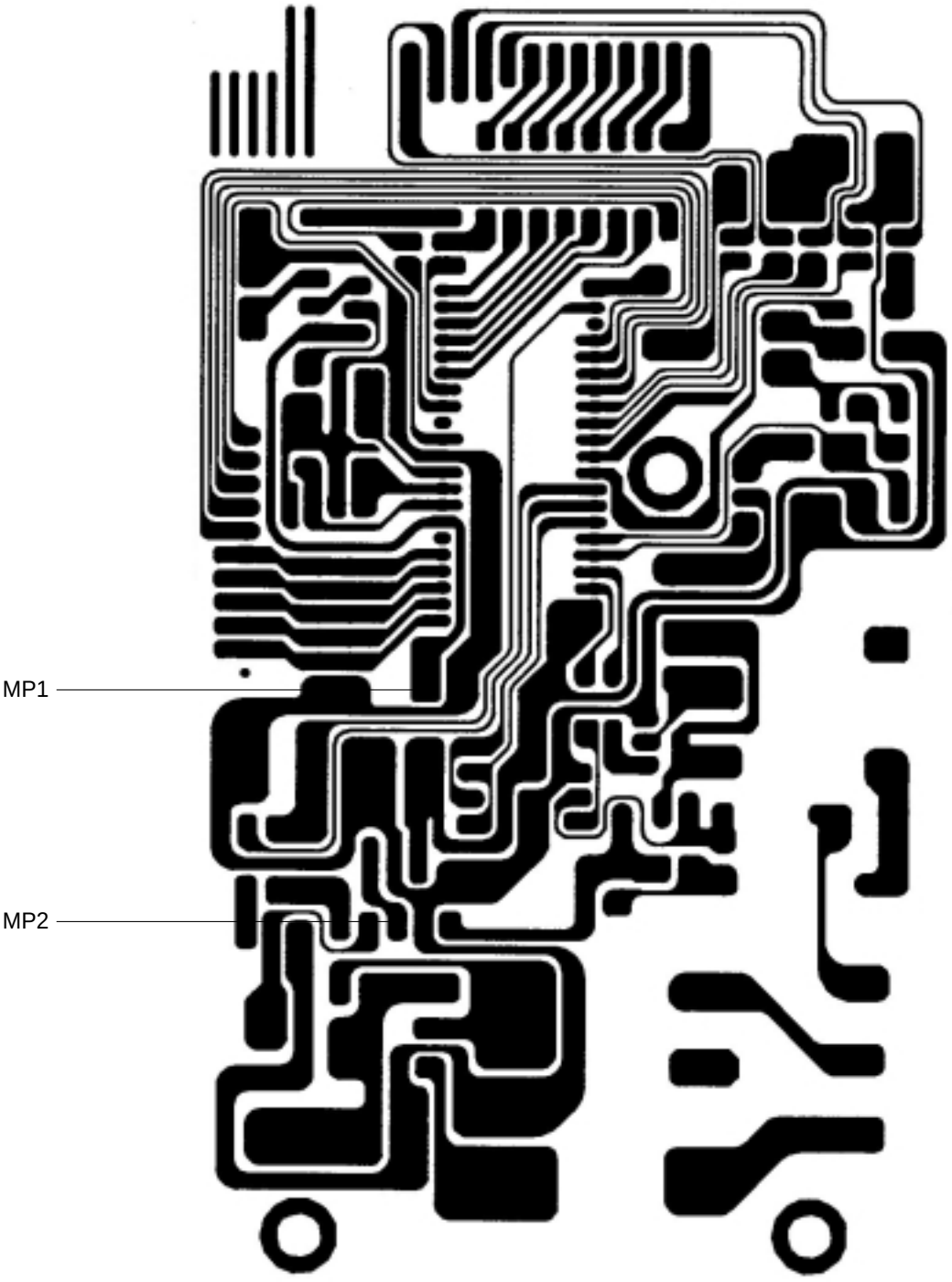
2. Voltage Check

- Key check point

NO	CHECK POINT	REMARK
1	IC1 PIN 7, 41, 42	5VDC
2	IC1 PIN 23	 T : 20ms(50Hz)
3	IC1 PIN 8 OR 9	 T : 250 ns(4MHz)

NO	MEASURE POINT	WAVE FORM	REMEDY	REMARK
1	MP1	DC 5V±0.25V	Replace VL1, EC1	NO LOAD
2	MP2	DC 12V±0.2V	Replace EC2, D6, 8, 9	NO LOAD

NOTE
Each measure point must be measured with GND points.



Mesurement point

3. When there is no microwave oscillation

1) When touching **START** pad, oven lamp does not turn on.
Fan motor do not rotate, but cook indicator in display comes on.
Cause : **RELAY 2** does not operate. refer to Circuit Diagram (point 3)
- Check method

STATE \ POINT	A	B
RELAY 2 ON	5VDC	GND
RELAY 2 OFF	GND	12VDC

2) When touching **START** pad, oven lamp turns on.
Fan motor and turntable rotate and cook indicator in display comes on.
Cause : **RELAY 1** does not operate. refer to Circuit Diagram (point 2)
- Check method

STATE \ POINT	A	B
RELAY 1 ON	5VDC	GND
RELAY 1 OFF	GND	12VDC

4. When there is no grill oscillation.

Cause : RELAY 3 does not operate. refer to Circuit Diagram (point 6)
- Check method

STATE \ POINT	A	B
RELAY 3 ON	5VDC	GND
RELAY 3 OFF	GND	12VDC

5. When the door is opened during operation, the count down timer does not stop.

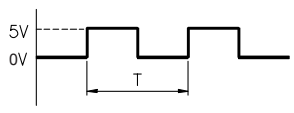
refer to Circuit Diagram (point 1)
- Check method

STATE \ POINT	A	B
1) DOOR OPEN	OPEN	5VDC
2) DOOR CLOSED	CLOSE	GND

CHECK NO	METHOD	REMEDY
1	Check the stage(ON, OFF) of the door open monitor switch by resistance measurement.	Replace door open monitor switch.

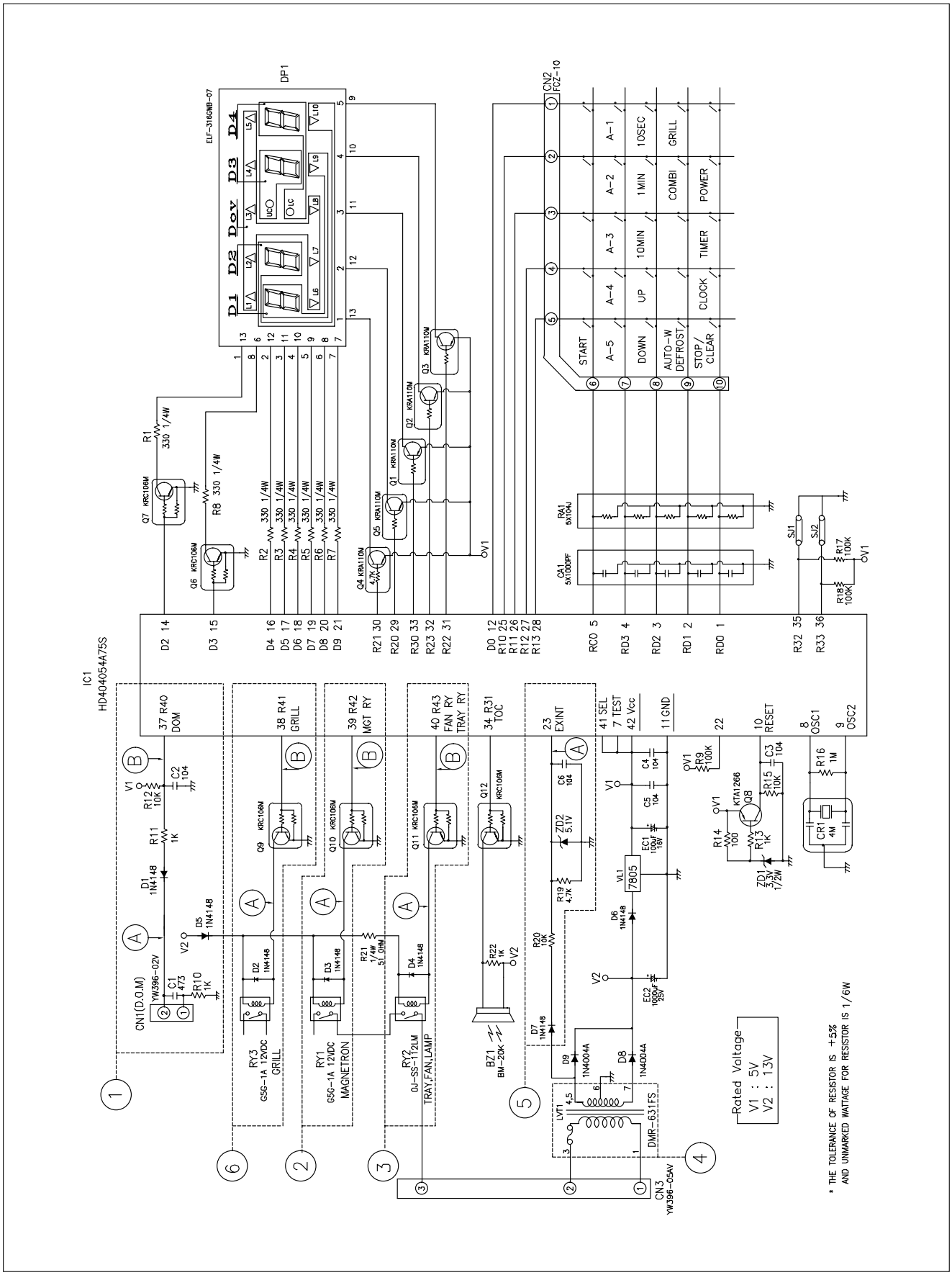
6. When the digital clock does not operate properly.

refer to Circuit Diagram (point 5)

POINT	WAVE FORM
A	 T: 20 ms(50Hz)

If clock does not keep exact time, you must check C6, D7, R19, R20, ZD2.

2. P.C.B. CIRCUIT DIAGRAM



3. P.C.B. LOCATION NO

(1) KOG-37DP0S / KOG-37FP0S

NO	NAME	SYMBOL	SPECIFICATION	PART CODE	Q'TY
1	BUZZER	BZ1	BM-20K	3515600100	1
2	C ARRAY	CA1	6P(5) 1000PF M 50V	CN5XB-102M	1
3	CAPACITOR ELEC	EC1	RSS 100MF 16V	CEXF1C101V	1
4	CAPACITOR ELEC	EC2	25V RSS 1000MF	CEXF1E102V	1
5	CONNECTOR WAFER	CN1	YW396-02V	3519150520	1
6	CONNECTOR FILM	CN2	FCZ 254-10P	441M367150	1
7	CONNECTOR WAFER	CN3	YW396-05AV	3519150510	1
8	DIODE RECTIFY	D1~D7	1N4148	DZN4148---	7
9	DIODE RECTIFY	D8,D9	KN4004A	DZN4004A--	2
10	DIODE ZENER	ZD1	UZ- 3.3BSB 1/2W	DZUZ3R3BSB	1
11	DIODE ZENER	ZD2	UZ- 5.1BSB 1/2W	DZUZ5R1BSB	1
12	PCB MAIN	M173	81.5X139.9	3514321160	1
13	R ARRAY	RA1	6P(5) 1/8 100K J	RA-86X104J	1
14	RESISTOR	R1~8	1/6W 330 5%	RD-AZ331J-	8
15	RESISTOR	R10,11,13,22	1/6W 1K 5%	RD-AZ102J-	4
16	RESISTOR	R9,17,18	1/6W 100K 5%	RD-AZ104J-	3
17	RESISTOR	R14	1/6W 100 5%	RD-AZ101J-	1
18	RESISTOR	R12,15,20	1/6W 10K 5%	RD-AZ103J-	3
19	RESISTOR	R16	1/6W 1M 5%	RD-AZ105J-	1
20	RESISTOR	R19	1/6W 4.7K 5%	RD-AZ472J-	1
21	RESISTOR	R21	1/4W 51 5%	RD-4Z510J-	1
22	RESONATOR CERA	CR1	CRT 4.00MS	5P4R00MTS-	1
23	IC REGULATOR	VL1	MC7805C	1CPMC7805C	1
24	TRANSISTOR	Q1~5	KRA-110M	TZRA110M--	5
25	TRANSISTOR	Q6,7,9~12	KRC-106M	TZRC106M--	6
26	TRANSISTOR	Q8	KTA-1266Y	TZTA1266Y-	1
27	TRANS POWER	LVT	DMR-631FS	5EPV035303	1
28	WIRE COPPER	J1~8,10,11	1/0.52 TIN COATING(7.5mm)	85801052GY	10
29	WIRE COPPER	J9	1/0.52 TIN COATING(12.5mm)	85801052GY	1
30	WIRE COPPER	SJ1	1/0.52 TIN COATING(7.5mm)	85801052GY	1
31	IC MICOM	IC1	HD404054A75S	147S57GP00	1
32	SW RELAY	RY1,RY3	G5G-1A DC12V	5SC0101121	2
33	SW RELAY	RY2	OJ-SS-112LM	5SC0101404	1
34	CAPACITOR CERA	C2~6	50V HIKF 0.1MF Z	CCZF1H104Z	5
35	CAPACITOR CERA	C1	50V 4700PF	CCZF1H473Z	1
36	LED DISPLAY	DP1	ELF-316GWB-07	DELF316GWB	1

EXPLODED VIEW AND PARTS LIST

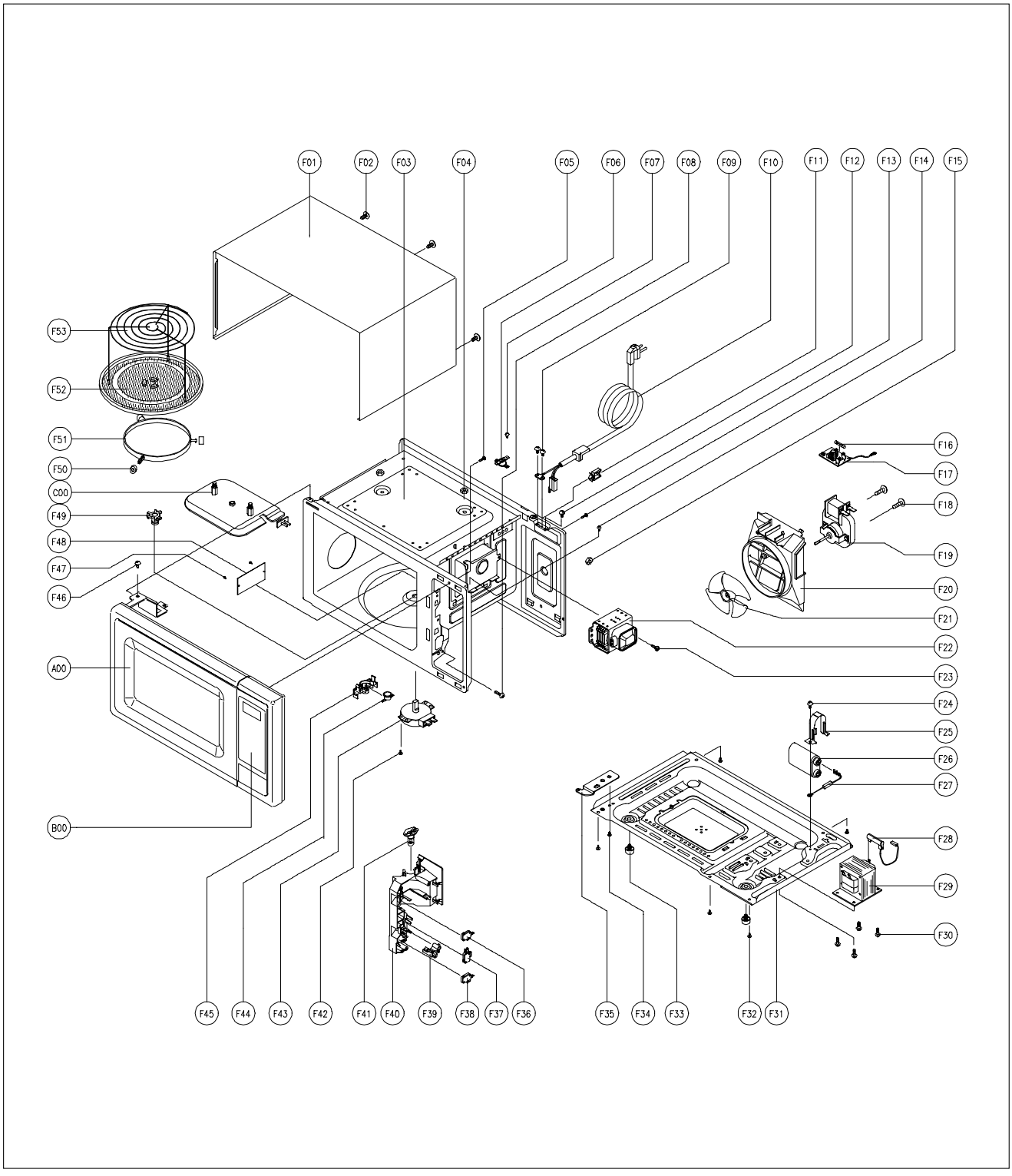
1. DOOR ASSEMBLY

Refer to Disassembly and assembly

2. CONTROL PANEL ASSEMBLY

Refer to Disassembly and assembly

3. TOTAL ASSEMBLY



(1) KOG-37DP0S / KOG-37FP0S

REF NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
A00		DOOR AS	Refer to disassembly and assembly	1
B00		CONTROL PANEL AS	Refer to disassembly and assembly	1
C00	3513302700	INSULATOR HEATER AS	Refer to disassembly and assembly	1
F01	3510805300	CABINET AS	PCM T0.5	1
F02	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	3
F03	3516109010	CAVITY WELD AS	CAVITY WELD AS	1
	3516109610	CAVITY JOINT AS	CAVITY JOINT AS	1
F04	7S627W50X1	NUT HEX	NUT FLANGE M5X0.8P MFZN	2
F05	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F06	3518904500	THERMOSTAT	OFF : 100 ON : 90 HN #187	1
F07	7121300611	SCREW TAPPING	T2S PAN 3X16 MFZN	1
F08	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F09	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	2
F10	35113A5QJ5	CORD POWER AS	3X1.5 80X80 120-RTML 1.4M	1
F11	4413A90012	CLAMP POWER CORD	NYLON66	1
F12	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	1
F13	7122401211	SCREW TAPPING	T2S TRS 4*12 MFZN	1
F14	7112401011	SCREW TAPPING	T1 TRS 4X10 MFZN	1
F15	7S627W50X1	NUT HEX	NUT FLANGE M5X0.8P MFZN	1
F16	4414A25110	FUSE	250V 15A 65TS	1
	4414A25100	FUSE	250V 15A MDA15	1
F17	3518606100	NOISE-FILTER	DWLF-M13	1
F18	7121403011	SCREW TAPPING	T2S PAN 4X30 MFZN	2
F19	3963513100	MOTOR SHADED POLE	230V 17W OEM-10DWC2-A07	1
	3963512310	MOTOR SHADED POLE	230V 20W MW10CA-M02	1
F20	3512517000	GUIDE WIND	PP	1
F21	3511800300	FAN	PP+30% GLASS	1
F22	3518002400	MAGNETRON	2M218J(F)	1
F23	3516004000	SPECIAL SCREW	T2 BOLT FLANGE 5X12 DACRO	1
F24	7272400811	TAPTITE SCREW	TT3 TRS 4*8 MFZN	1
F25	3513003200	HOLDER HV CAPACITOR	SECC T0.6	1
F26	3518302200	CAPACITOR HV	2100VAC 0.98μF #187	1
F27	3518400900	DIODE HV AS	HVR-1X-30B #187	1
F28	3518701100	FUSE HV	5KV 0.55A HV-41A55-02	1
F29	3518113701	TRANS HV	DY-N80S0-63T	1
F30	3516003700	SPECIAL SCREW	TT3 HEX 4X8 FLG MFZN	4
F31	3510311710	BASE	SBHG T0.7	1

REF NO	PART CODE	PART NAME	DESCRIPTION	Q'TY
F32	7112401011	SCREW TAPPING	T1 TRS 4*10 MFZN	5
F33	3512100900	FOOT	PP DASF-130	2
F34	7272400811	TAPTITE SCREW	TT3 TRS 4X8 MFZN	1
F35	3515201101	STOPPER HINGE *U	SCP-1 T2.5	1
F36	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	1
F37	4415A66910	SW MICRO	VP-531A-OF/SZM-V16-FA-61	1
F38	4415A17352	SW MICRO	VP-533A-OF SPNO #187 200G	2
F39	3513702600	LEVER LOCK	POM	1
F40	3513811700	LOCK	POM	1
F41	3513601600	LAMP	BL 240V 25W T25 C7A H187	1
F42	7121400611	SCREW TAPPING	T2S PAN 4X6 MFZN	1
F43	3966310100	MOTOR SYNCRO	220V 2.5W GM-16-24FD12	1
	3966310110	MOTOR SYNCRO	220V 2.5W M2LJ49ZT52	1
F44	3518905300	THERMOSTAT	OFF: 75 ON: 65 H #187 NB	1
F45	3513003400	HOLDER THERMOSTAT	PBT	1
F46	7272400811	SCREW TAPTITE	TT3 TRS 4X8 MFZN	1
F47	4078502031	BUTTON LOCKING	PP HONAM A353	2
F48	3511405100	COVER WAVE GUIDE	MICA T0.35	1
F49	3517400620	COUPLER	XAREC	1
F50	3514700710	ROLLER	TEFLON	3
F51	3512517300	GUIDE ROLLER	PP 5113MF6 A353B	1
F52	3517203600	TRAY	GLASS	1
F53	3517206900	TRAY RACK AS	KOG-37150S 110MM	1

DAEWOO

DAEWOO ELECTRONICS CO., LTD.

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SEOUL, KOREA
C.P.O. BOX 8003 SEOUL, KOREA
TELEX: DWELEC K28177-8
CABLE: “DAEWOOELEC”

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